PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SJB/P211086WO	**FOR FURTHER ACTION**	See Form PCT/IPEA/416
International application No. PCT/GB2004/001110	International filing date *(day/month/year)* 12.03.2004	Priority date *(day/month/year)* 13.03.2003
International Patent Classification (IPC) or national classification and IPC A61B17/16		
Applicant DEPUY INTERNATIONAL LIMITED et al.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *sent to the applicant and to the International Bureau)* a total of 2 sheets, as follows:
      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒	Box No. I	Basis of the opinion
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☒	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
27.09.2004	03.06.2005
Name and mailing address of the international preliminary examining authority: European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Authorized Officer Nistor, L Telephone No. +49 30 25901-561

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/GB2004/001110

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
   - ☐ international search (under Rules 12.3 and 23.1(b))
   - ☐ publication of the international application (under Rule 12.4)
   - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages	
1-11	as originally filed
Claims, Numbers	
1-6	received on 27.09.2004 with letter of 23.09.2004
Drawings, Sheets	
1/4-4/4	as originally filed

   ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☒ The amendments have resulted in the cancellation of:
   - ☐ the description, pages
   - ☒ the claims, Nos. 7, 8
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

* *If item 4 applies, some or all of these sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/GB2004/001110

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-6
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-6
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-6
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:
D4: US 2002/099380 A1 (SALYER PAUL E ET AL) 25 July 2002 (2002-07-25)

The document **D4** is regarded as being the closest prior art to the subject-matter of claim **1**, and shows (the references in parentheses applying to this document):

an instrument assembly for use in orthopaedic surgery, which comprises a component (78) which is to be positioned within a body cavity to engage a bone and which has at least one bar portion (60) extending across it, and a manipulator (10) having at least one clasp for engaging the bar portion (60) so as to fasten the component (78) to the manipulator (10), the clasp comprising a hook (96+98+100) and a keeper pin (92), in which:
a. the keeper pin (92) can be displaced relative to the hook (96+98+100) between an open position in which the keeper pin (92) is retracted relative to the hook (96+98+100) so that the hook (96+98+100) is open at one side to allow the bar portion (60) to be slid between the hook (96+98+100) and the keeper pin (92), and a closed position in which the keeper pin (92) closes the hook (96+98+100) sufficiently to prevent the bar portion (60) from being removed from under the hook (96+98+100),
b. at least one of the contacting surfaces of the bar portion (60) and the hook (96+98+100) which contact one another when the bar portion (60) is inserted between the hook (96+98+100) and the keeper pin (92), or the surface of the bar portion (60) which contacts the keeper pin (92), provides a ramp (100,) and
c. the hook is biassed towards the closed position (see par. 0050-0052, 0056-0060 and figures 1-9).

The subject-matter of claim **1** differs from this known instrument assembly in that the hook can be displaced relative to the keeper pin and in that the ramp on at least one of the contacting surfaces of the bar portion and the hook, when sliding the bar portion between the hook and the keeper pin causes the hook to be displaced relative to the keeper pin, towards the open position.

The subject-matter of claim **1** is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as how to provide an instrument assembly in which is increased the ease by which a component can be both engaged and disengaged from the clasp of a manipulator.

The solution to this problem proposed in claim **1** of the present application is considered as involving an inventive step (Article 33(3) PCT) because the features of providing a clasp comprising a hook and a keeper pin, in which the hook can be displaced relative to the keeper pin was not to be found in the prior art available. All the documents found in the prior art disclose a clasp in which the keeper pin can be displaced relative to the keeper pin. The displacement of the hook relative to the keeper pin allows the user an easier engagement or releasing of a component from the instrument.

Claims **2-6** are dependent on claim **1** and as such also meet the requirements of the PCT with respect to novelty and inventive step.

The industrial application of the claims **1-6** appears to be obvious so that the criterion set forth in Article 33(4) PCT is also fulfilled.

Further remarks
Upon entry in the regional phase the applicant should observe the following remarks:

The independent claim should be written in the two-part form with those features known in combination from the prior art being placed in the preamble and with the remaining features being placed in the characterising part, and document **D4** which is considered the closest prior art should be identified and discussed in the description.

The features of the claims should be provided with reference signs placed in parentheses.

CLAIMS:

1. An instrument assembly for use in orthopaedic surgery, which comprises a component which is to be positioned within a body cavity to engage a bone and which has at least one bar portion extending across it, and a manipulator having at least one clasp for engaging the bar portion so as to fasten the component to the manipulator, the clasp comprising a hook and a keeper pin, in which:

a. the hook can be displaced relative to the keeper pin between an open position in which the keeper pin is retracted relative to the hook so that the hook is open at one side to allow the bar portion to be slid between the hook and the keeper pin, and a closed position in which the keeper pin closes the hook sufficiently to prevent the bar portion from being removed from under the hook,

b. at least one of the contacting surfaces of the bar portion and the hook which contact one another when the bar portion is inserted between the hook and the keeper pin, or the surface of the bar portion which contacts the keeper pin, provides a ramp so that sliding the bar portion between the hook and the keeper pin causes the hook to be displaced relative to the keeper pin, towards the open position, and

c. the hook is biassed towards the closed position.

2. An instrument assembly as claimed in claim 1, in which the hook is located on a plate so that the bar portion fits between the hook and the surface of the plate when the component is fastened to the manipulator, and in which the keeper pin extends through an aperture in the plate.

3. An instrument assembly as claimed in claim 1, in which the manipulator includes a shaft on which the clasp is mounted, in which the hook part of the clasp moves relative to the shaft during the said relative displacement between open and closed positions.

4. An instrument assembly as claimed in claim 1, in which the ramp is provided by the surface of the hook which contacts the bar portion when the bar portion is inserted between the hook and the keeper pin.

5. An instrument assembly as claimed in claim 4, in which the hook includes a ramp portion which engages the bar portion while the bar portion is inserted between the hook and the keeper pin, and a locked portion which engages the bar portion which the component is fastened to the manipulator.

6. An instrument assembly as claimed in claim 1, in which the manipulator includes at least two clasps which are arranged rotationally symmetrically around a central point, and the component includes corresponding bar portions, so that the bar portions can be positioned in corresponding clasps by relative rotation between the component and the manipulator around the said central point.